

CENTRAL INTELLIGENCE AGENCY

## REPORT

# INFORMATION REPORT

CD NO

25X1

COUNTRY East Germany

DATE DISTR.

2 May 1955

SUBJECT VEB Carl Zeiss Jena Organization and Production

NO. OF PAGES

PLACE  
ACQUIREDNO. OF ENCLS.  
(LISTED BELOW)

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DATE OF INFO.

SUPPLEMENT TO  
REPORT NO.

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Organization and Development Program.

1. Wissenschaftliche Leitung Scientific Control

**Task:** Basic research in the optical field (photographic cameras).

- layer, present metal layers, Amplifier engineering, Electronic microscope, All - equipment

Work: An infrared photograph was recently submitted for development research. No details are available.

Head of WHL: Prof. Dr. (Paul) Goerlich is frequently absent on trips to the USSR. He is rather unpopular.

Assistants: Dr. Hans Illgen sound film  
Dr. Kurt Erler \* desit with amplifier engineering. Dr. Erler  
is pro-Communist  
Prof. Dr. Konrad Kuehne Professor of Physics in the University of  
Jena

2. Entwicklungshauptleitung (Main Development Control Office) (EHL).

Nine development offices, including the offices dealing with:

- a. Interrelated problems, predevelopment tasks and research concerning all contemplated, developments
- b. Optics and cameras.
- c. Electrical items and infrared spectographs.
- d. Calculating machines

See paragraph 10

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In addition, there exists an administrative office of the EHL. The non-productive administrative personnel with the Zeiss firm amounted to about 40 percent of the total personnel of 18,000. The cooperation between WHL and EHL was rather loose. WHL passed problems it deemed ripe for development to EHL, which consequently had to tackle the problems themselves without being assisted by WHL.

Head of EHL: Dr. Herbert Kortum

Assistant: Dr. Wilhelm Kaemmerer Dr. Kortum's first assistant and head of the office for interrelated problems.  
 Log, Max Straube \* Dr. Kortum's deputy  
 Lenski  
 Boll, Graduate engineer  
 Jung  
 Dietrich, Hans

3. Production manager of the Zeiss firm was Rudolf Mueller.

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4. Development and manufacture of a relay-controlled calculating machine by the EHL

Factory name of the machine: Oprema, standing for "Optische Rechenmaschine" (Optical calculating machine).

The order was placed by Minister Rau in person. This was suggested by Dr. Kortum who negotiated with Rau and explained the advantages of the machine to him. This machine was designed to accelerate the optical calculations and the general calculation of leap systems in order to make up for the advance made by West Germany in the past three years.

Targets:

Project work started in February 1954 and production permission was given by Minister Rau in May 1954, the target was set for 31 December 1954. It was expected that the machine would be completed by that date.

Sum needed: 1,000,000 DM

Supplying firms:

- a. RFL Geraetewerk Chemnitz - relays
- b. Gleichrichterwerk Grossruechen (Rectifier Plant) - rectifiers
- c. Other material was procured by driving around in taxis and collecting items at all post offices in East Germany because of inadequate production in East Germany.

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**Experts:**

Project manager : Dr. Kaemmerer \* (\*indicating that this person had been deported to the USSR; see paragraph 7.)

Theoretical research : Dr. Kaemmerer \*  
Poell, grad. eng. \* 1  
Jung

Design : Ing. Gerhard Lenke \*

Production manager : Dietrich, Hans

Description of the machine: A relay-controlled program calculating machine, specially intended for calculating lens systems. Coded decimal system.

Capacity : 8-digit decimal figure (after 1. digit a decimal point) by  $10^{+15}$  and  $10^{-15}$ . The machine will be a twin-type machine with automatic comparison of each intermediate result, automatic stop in case of divergent results. The machine will include about 8,000 telegraph relays and 40,000 locking cells. If so desired, each intermediate result can be printed in decimal figures by an electric typewriter. This means that, according to this program, 16,000 calculations can be made in 15 hours.

Difficulties arose from the shortage of certain component parts, from the enormous waste of material supplied by the sub-contractors, and from the shortage of labor.

6. Development of an electronic calculating machine at the mathematical institute of the Dresden Technical University - Professor Willers.

In about early October 1954, [ ] the project concerning electronic calculating machines had been postponed in Dresden because of the difficulties experienced in procuring proper electronic tubes. Each tube had to be manufactured individually and the amount of waste was too high. Dr. Kaemmerer is keenly interested in firms competing with his Onuma. Because the order was given to Professor Willers in Dresden, at the beginning Jena was disinclined to approve this project. However, as a result of the efforts made by Dr. Kortum and Dr. Kaemmerer, it was possible to put through this order. Dr. Kaemmerer was also interested in both the machines manufactured by the Stuttgart firm of Zuse in the development of such machines in Sweden.

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7. All persons marked \* had been deported to the USSR within the collective treatment of the Zeiss firm.

Individual Works.

8. The labor force of the main plant in Jena, including that of the branch plants, totaled about 18,000 in June 1954.
9. No information is available on infrared equipment of anti-tank guns nor on mass production of such equipment.

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10. Work on phototheodolites was resumed. Ing. Henry Guldbranson was assigned the task of developing and preparing the manufacture of phototheodolites.
11. Plans for the production of cameras recently restarted under the collective name of "picture cameras". At first the designs were for the production of picture cameras for land surveying. Development of these apparatus will be also in the hands of Guldbranson.
12. No information has been obtained on the development of a new bomb-releasing device, e.g., link trainers or other training equipment. The manufacture of A-1 equipment has been completed. No repeat orders have been received.
13. Development of an electronic microscope based on the electronic principle:  
The electronic microscope manufactured and delivered to date showed that the electronic equipment developed by the Zeiss firm's own plant proved to be a failure. The inventor of this equipment no longer worked with this firm. He had changed over to the ball-bearing firm of Schack in Fraureuth (Thuringia), which allegedly is a firm intended to compete with Schweinfurth ball-bearing factories. During the period of reference, Mr. Lotz worked on the development of high-speed electric motors driving high-speed grinding spindles. The electric high-voltage components needed for the electronic microscope therefore were supplied to the Zeiss firm by the Dresden firm of Koch and Stertzel and reportedly the electronic part worked faultlessly. A total of ten electronic microscopes allegedly were sold to an undetermined consignee, while another ten were going into mass production as a new production group.

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14. The development of an oversize centrifuge was given up after Lotz had left the plant.
15. Photographic surveying and evaluation instruments are still in the developing stage and no mass production has started.
16. Teleopic sights for sporting guns were manufactured according to well-known methods. No innovation in this field has come to source's notice.
17. No new information is available on the development of photocells for phototechnical and technical control devices in general (regeltechnische Zwecke). Eng. Hauenstein (fmu) dealt with the manufacture of photocells for portable sound film equipment.

18.

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19. No information is available concerning the manufacture of oscillating quartzes of any frequency. Manufacture of oscillating quartzes was started at plant 37.

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20. No progress was made in the manufacture of optical instruments in connection with experiments made with a view to replace the previously used deflecting prisms by mirrors, e.g., for binoculars. Microscopes fitted with mirrors instead of prisms were not acceptable to scientists. The reason for the poor results of these experiments was the fact that not only was the adjustment of the mirrors far more difficult than with prisms, but that it also proved impossible to fix the mirrors firmly enough to prevent them from getting out of adjustment after a short period of use.
21. The development of the Disvau (sic) infantry rangefinder, a scissors-type telescopic rangefinder was continued. Two prototypes of this rangefinder were completed. It was, however, impossible to find out whether work on them was continued or if orders had been placed for the manufacture of these rangefinders for the Soviet's Police. No information on the further development of a 10-meter base Navy-type rangefinder has been received.
- No innovation with the compass azimuth discs were known. The older -type 6400-graduation azimuth discs were converted into 6000 graduation for the Soviets. It was not learned whether these operations were completed or not.

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1. Wissenschaftliche Hauptleitung (Main Scientific Control Office)(WHL)

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Task: Basic research in the optical field (photographic cameras),  
Layer research (metal layers),  
Amplifier Engineering,  
Electronic microscopes,  
A 1 - equipment

Work: An infrared WHL spectograph was recently submitted for development  
research. No details are available.

Head of WHL: Prof. Dr. <sup>(Paul)</sup> ~~Paul~~ ~~Georg~~ is frequently absent on trips to the  
USSR. He is rather unpopular. ~~both as an~~

Assistants: Dr. Hans Eilgen sound film  
Dr. Kurt Eriker dealt with amplifier engineering. Dr. Eriker  
is pro-Communist  
Prof. Dr. Konrad ~~Werner~~ <sup>Konrad</sup> ~~Werner~~ of Physics in the University of  
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Nine development offices, including the offices dealing with:

- a. Interrelated problems, predevelopment tasks and research concerning  
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  - b. Optics and cameras.
  - c. Electrical items and infrared spectographs.
  - d. Calculating machines:
- See paragraph 7.

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In addition, there exists an administrative office of the EHL. The non-productive administrative personnel with the Zeiss firm amounted to about 40 percent of the total personnel of 18,000. The cooperation between WHL and EHL was rather loose. WHL passed problems it deemed ripe for development to EHL, which consequently had to tackle the problems themselves without being assisted by WHL.

Head of EHL:

Dr. ~~Robert Kortum~~ \*  
*Wilhelm*

Assistant:

~~Robert Kortum~~ Kortum's first assistant and head of the office for interrelated problems.Dr. ~~Hans~~

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Foll, Graduate  
engineer

Jung

Dietrich, Hans

3. Production manager of the Zeiss firm was Rudolf Mueller.

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5. Development and manufacture of a relay-controlled calculating machine by the EHL.

Factory name of the machine: Oprema, standing for "Optische Rechenmaschine" (Optical calculating machine).

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Project manager : Dr. Kaemmerer \* (\*indicating that this person had been deported to the USSR; see paragraph 7.)

Theoretical : Dr. Kaemmerer \*  
research Poell, grad. eng. \* 1/  
Jung

Production : Dietrich, Hans  
manager

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institute of the Dresden Technical University - Professor Willers.

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7. All persons marked \* had been deported to the USSR within the collective treatment of the Zeiss firm.

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12. No information has been obtained ~~yet~~ on the development of a new bomb-releasing device, e.g., link trainers or other training equipment. The manufacture of A-1 equipment has ~~almost~~ been completed. No repeat orders have been received.
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